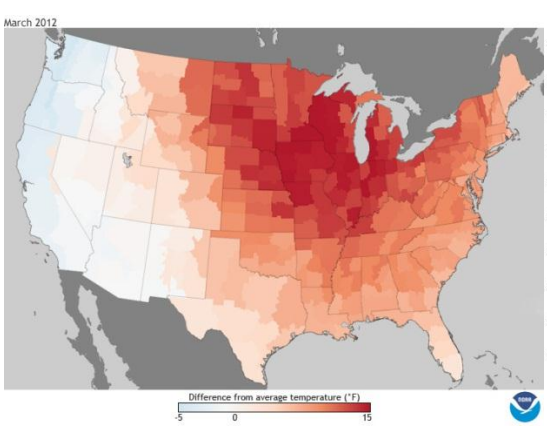
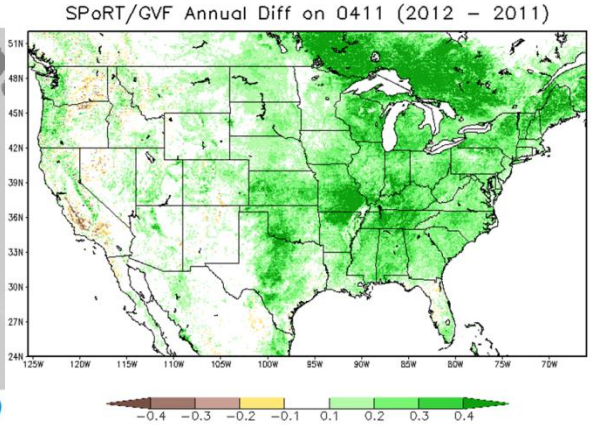
National Weather Service
Southeast River Forecast Center

Hydrologic Vulnerability Assessment - Drought
4:00 p.m. Tuesday, April 17, 2012

… Lack of rainfall during the month of March over much of the Southeast has helped to intensify the drought in parts of Alabama and South Carolina, and much of Georgia and Florida …

Typically each year the Southeast usually sees significant improvement in its water resource situation during the month of March. Climatologically, March can produce flooding as well as beneficial recharge to reservoirs, rivers, and groundwater. This has not been a typical year, and therefore, a variety of factors have led to the deterioration of water resource conditions. One factor that led to deteriorating conditions was the above-normal temperatures over the eastern half of the country, as depicted by the graphic below. Although the warmth was more pronounced across the upper plains with respect to the difference in average temperature, the effects were felt in the Southeast. One impact of that has been the early greening up of plants as depicted by the other graphic below (courtesy of Wide World of SPoRT). It shows the difference between April 11, 2011, and April 11, 2012. Although this is not a comparison to average, it does show the difference from last year, when we did see a productive recharge season. Increased evapotranspiration rates and below-normal precipitation over the impacted area have led to a quickly deteriorating situation.

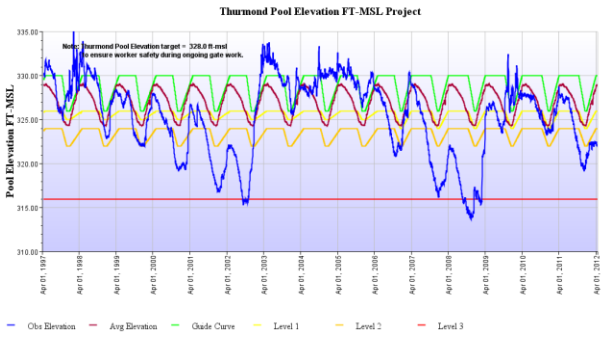


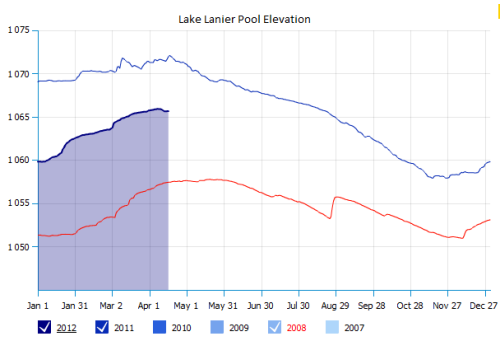


Reservoirs

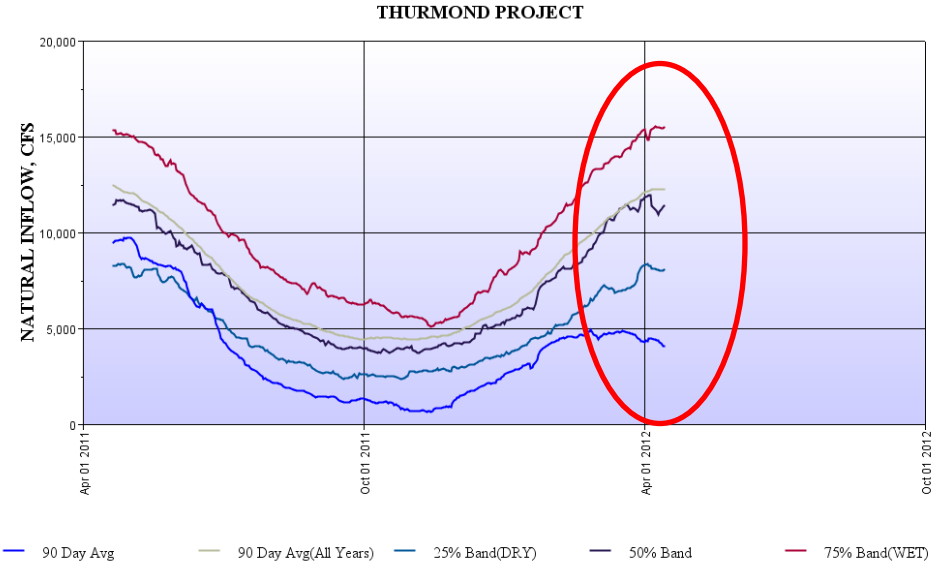
One of the lagging indicators around a drought is that of the reservoirs. One example is the Thurmond Dam reservoir on the border of South Carolina and Georgia. The graphic below shows the lake elevation since 1997 with drought trigger levels as shown in the legend below. Notice the observed elevation in blue, which shows how little recharge there was during the southeast recharge season in 2012. Initial drought conditions were not as bad as they had been in the past, and therefore, the impact of a dry March has not been as pronounced. The graphic next to it shows the Lake Lanier Pool elevation. In a comparison to last year and to our most recent significant drought, the pool is

running about 8 ft above where it was during the 2008 drought. Unfortunately, inflows into the system are well below normal.



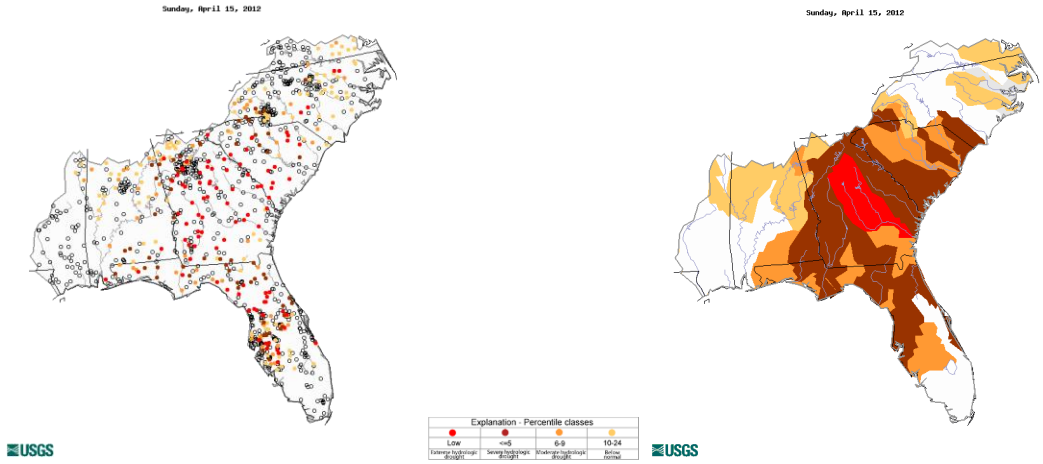


In the graphic below, the 90-day average inflow into Lake Thurmond is well below the 25 % band (DRY) category. The average was above that band in June of last year; however, inflows have remained below that level since then. Especially noticeable in the red oval below is how the observed inflow is already flat and has been since mid-March. This is unusual and does not bode well for this reservoir because it is representative of many reservoirs across the Southeast, including Lake Lanier.



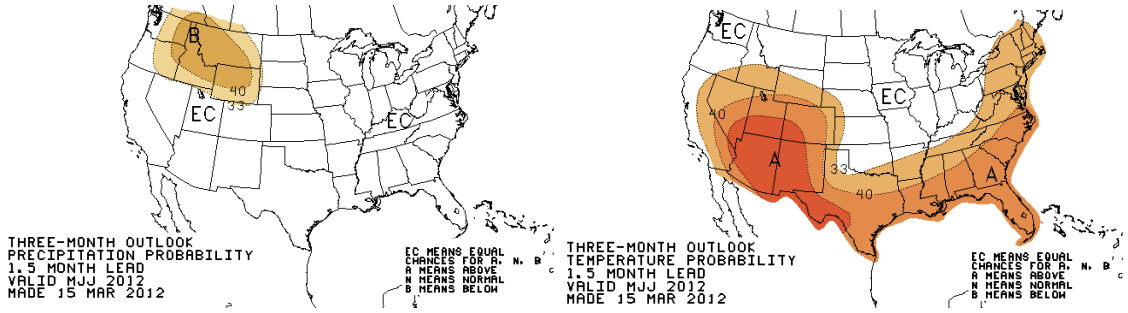
Streamflows in the Southeast

Streamflows across the Southeast are extremely low, as depicted by these graphics produced by the USGS. These are showing 28-day average streamflow across the region compared to normal for this time of year. We would expect streams and reservoirs to be getting close to their highest levels for the year in mid-April.

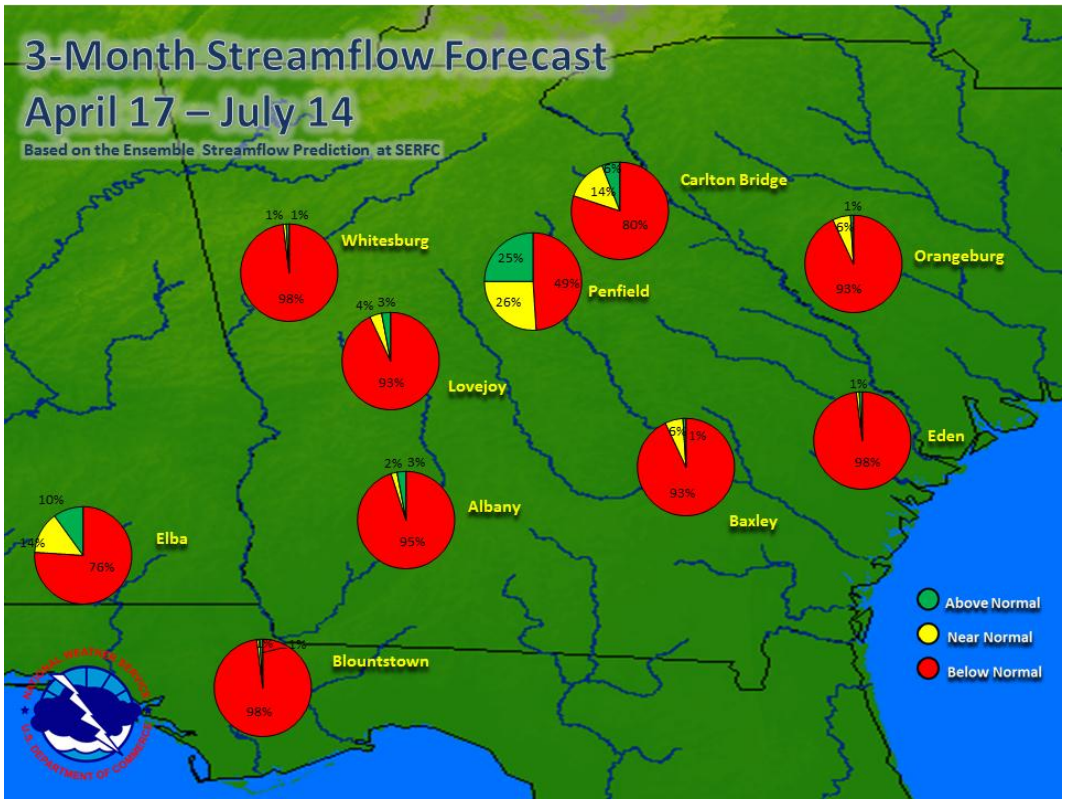


Looking Ahead

The forecast for the May, June, and July time frame looks similar to what the Southeast is experiencing now. With no large-scale weather pattern, there is still a great deal of uncertainty in the forecast. With initial conditions being so dire right now, below-normal precipitation would produce significant problems across many of the areas already dealing with drought conditions, causing reservoirs to fall more quickly than in the past. Even normal rainfall will not help conditions significantly. Above-normal rainfall will be needed to improve conditions. It takes time to get into drought and it will take time to come out of one. We had fall rains during 2009 that brought much of the southeast out of our last drought that were not predicted very well by forecasters in the preceding summer. So it is possible to come out of the drought at any time, it is just not likely during the outlook period.



Our map below shows the predictions based on Ensemble Streamflow Prediction from the SERFC. The pie charts in the 3-month streamflow forecast indicate that rivers will likely remain below normal well into the summer.



Please feel free to contact the SERFC if you have any questions or concerns.

SERFC Water Watch Team
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